CURRICULUM VITAE
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EDUCATION

2006 - present Ph.D, Kansas State University, Dept. of Physics, High Energy Physics, Manhattan, KS

2002 - 2004 M.S., Tbilisi State University, Department of Physics, Solid State Physics, Tbilisi, Georgia

1998 - 2002 B.S., Tbilisi State University, Department of Physics, Tbilisi, Georgia

1998 T.Gegelia's Physico-Mathematical School of Tbilisi State University, Tbilisi, Georgia

PROFESSIONAL EXPERIENSE

2008 - present Graduate Research Assistant - Kansas State University, High Energy Physics

- **CMS experiment**: di-boson production research with $V\gamma$ group
  - Contributed to the analysis code development for data selection and cross-check for all four channels ($\mu\mu\gamma/ee\gamma/\mu\nu\gamma/e\nu\gamma$)
  - In the scope of analysis, checked consistency of Monte Carlo generators used for the analysis using full kinematic information of final state and confirming the consistency of angular distributions
- **PhD thesis**: Study of Helicity Distribution of the $Z\gamma$ Production at the CMS
  Key aspects:
  - Theoretical calculation of angular distribution of final state particles ($\mu\mu\gamma/ee\gamma$)
  - Simplification of the distribution function with theoretically and experimentally motivated constraints
  - Measurement of helicity amplitudes using unbinned likelihood method
  - Generation and study of simulated data using various Monte Carlo simulators (BAUR, MadGraph, Sherpa, MCFM)
  - Analysis completely based on my own code with the tools available in the CMSSW

2009 - present Working in CMS WebBased Monitoring (WBM) group on developing online monitoring tools for the CMS experiment

- Projects Developed with WBM group:
  - **CMS PageZero**: CMS internal page providing detailed information about CMS and LHC
  - **CMS Page1**: CMS Public page providing information about CMS and LHC Status
  - **FillReport**: CMS Private page with detailed information and plots describing LHC and CMS performance during each fill
  - **DataSummary**: CMS internal page with detailed daily, weekly and yearly summary information and plots
- Offline/Online Data Quality Monitoring (DQM):
  - Supervised DQM shifts at Fermilab Remote Operation Center

  - Conducted trainings for DQM shift-takers

2008 - 2009 Worked on the CMS Pixel Detector at Paul Scherrer Institute (PSI), Switzerland as part of the PIRE program

- Commissioning of the barrel of the Pixel Detector
  - Testing and calibrating the detectors
  - Improving pixelOnlineSoftware for proper detector initialization and testing purposes
- Pixel Detector Upgrade Project
  - Working on the development of new 8 bit ADC design

2006 - 2008 Graduate Teaching Assistant . Kansas State University

- Course taught : General Physics I laboratory
- Grading duties : Engineering Physics, General Physics

2002 - 2004 Research Assistant : Tbilisi State University, Department of Material Research

- Worked on inverting the conductivity type of ZnO wide band gap semiconductors

PHYSICS OUTREACH

March 2013 - *QuarkNet*: Helped facilitate the *QuarkNet* outreach program for the physics teachers and their students at the Kansas State University.

CONFERENCES AND PRESENTATIONS

2013 Invited speaker at the HEP Seminar at the University of Kansas: Angular distribution of the di-boson production at the CMS

2012 APS Prairie Section Meeting: Study of $Z\gamma$ Helicity Distributions at the CMS

2012 CHEP2012: New Developments in Web Based Monitoring at the CMS Experiment

2011 American Physical Society, APS April Meeting: Study of $Z\gamma$ Helicity Distributions at the CMS

2009 JTERM IV: Physics with WZ production at LPC

2008 PIRE Annual Meeting at University of Kansas: CMS Pixel Detector Upgrade

COMPUTER SKILLS

Programming Languages/Tools : C/C++ (Microsoft Visual C++, Borland C++ Builder), Java, Pascal (Borland Turbo Pascal, Borland Delphi), Basic (Microsoft QBasic), Perl, Python, HTML (JScript/JavaScript programming), SQL (for databases)

Operating Systems : Windows, Linux, Unix/Solaris

Frameworks : ROOT, CMSSW

Databases (DBMS) : MySQL, ORACLE